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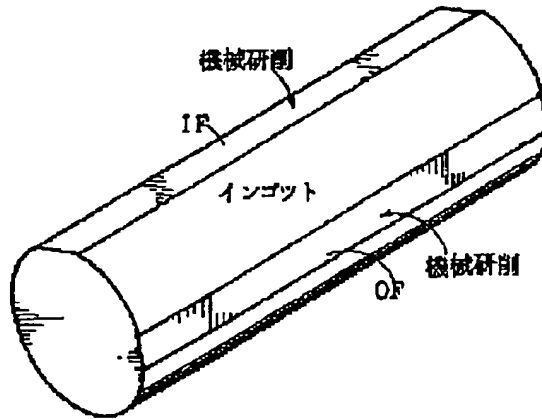
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TITLE : III-V COMPOUND SEMICONDUCTOR
WAFER AND ITS PRODUCTION



ABSTRACT : PROBLEM TO BE SOLVED: To obtain an off-angle compound semiconductor wafer having OF-(orientation flat) and IF(identification flat) with high accuracy by growing a single crystal in a specific direction of crystal and making a planar face to become OF and IF in a cleavage plane direction and cutting the crystal.

SOLUTION: A III-V compound semiconductor single crystal ingot is grown by an arbitrary method among LEC method, HB method, VB method, etc., VGF method and a single crystal is grown in a direction inclined by a desired off angle θ ($5^\circ \leq \theta \leq 90^\circ$) from (100) direction to $(0\pm 1\pm 1)$ direction and cleavage plane direction of crystal is obtained by X ray diffraction in a state of single crystal ingot in order to give OF and IF exhibiting cleavage plane direction of crystal and planar face to become OF and IF in cleavage plane direction crossing at right angles is mechanically polished in a shaft direction of ingot as shown in the figure and the crystal is cut at right angle direction to provide the objective III to V compound semiconductor wafer having OF and IF, inclined by 5° to 90° from (100) face to $(0\pm 1\pm 1)$ face direction and having desired off angle.

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